

WHAT IS CLAIMED IS:

1. An apparatus for electrically interconnecting a first component having a plurality of first bonding sites and a second component having a plurality of second bonding sites, the wirefilm comprising:

a substantially planar film; and

a plurality of wire strands, each wire strand having a first end and a second end, each wire strand coupled to the film according to the relative positions of the first component and the second component, the first end of each wire strand operable to contact a first bonding site and the second end of the each wire strand operable to contact a second bonding site to electrically interconnect the first component and the second component.

2. The apparatus of Claim 1, wherein the film comprises a plastic polymer.

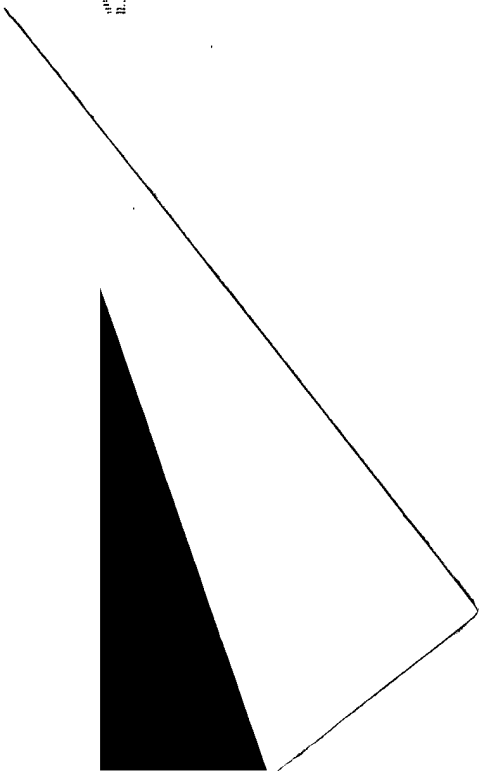
3. The apparatus of Claim 1, wherein at least a portion of each wire strand between the first end and the second end is embedded in the film.

4. The apparatus of Claim 1, further comprising an adhesive layer operable to couple the wirefilm to the first component and the second component.

5. The apparatus of Claim 1, wherein each wire strand comprises a loop portion located between the first end and the second end, the loop portion spaced apart from the film.

Sub C4

5

[illegible]

7. A system for interconnecting a first component having a plurality of first bonding sites and a second component having a plurality of second bonding sites, the system comprising:

5 a leadframe coupled to the first component and the second component, the leadframe operable to advance from a first position to a second position;

10 a film tape carrier operable to advance a first wirefilm into the first position, the first wirefilm removably coupled to the film tape carrier, the first wirefilm comprising a substantially planar film and a plurality of wire strands, each wire strand having a first end operable to contact a first bonding site and a second end operable to contact a second bonding site; and

15 a film attach tool operable to contact the first component and the second component with the first wirefilm at the first position to interconnect the first component and the second component.

20 8. The system of Claim 7, further comprising a bonding tool operable to bond the first end of each wire strand to the corresponding first bonding site at the second position and to bond the second end of each wire strand to the corresponding second bonding site at the  
25 second position.

30 9. The system of Claim 8, wherein the bonding tool is operable to bond the first end of each wire strand to the corresponding first bonding site and the second end of each first wire strand to the corresponding second bonding site at approximately the same time.

10. The system of Claim 7, wherein the system is operable to advance the film tape carrier and the leadframe substantially perpendicular to one another.

5 11. The system of Claim 7, wherein the film tape carrier is operable to separate from the first wirefilm at the first position.

10 12. The system of Claim 7, further comprising an advancement assembly, the film tape carrier having an indexing hole, the advancement assembly operable to engage the indexing hole to advance the film tape carrier.

15 13. The system of Claim 7, wherein the film tape carrier is operable to advance a second wirefilm into the first position in response to the first wirefilm contacting the first component and the second component.

20 14. The system of Claim 7, wherein the system is operable to displace the film tape carrier at the first position approximately perpendicularly relative to the direction of advancement of the first component and the second component to reduce distortion of the first wirefilm before the first wirefilm contacts the first component and  
25 the second component.

15. A method for electrically interconnecting a first component having a plurality of first bonding sites and a second component having a plurality of second bonding sites, the method comprising:

5       contacting the first component and the second component with a first wirefilm at a first position, the first wirefilm comprising a film and a plurality of wire strands, each wire strand coupled to the film according to the relative positions of the first component and the  
10       second component, each wire strand having a first end operable to contact a first bonding site and a second end operable to contact a second bonding site;

      advancing the first component and the second component to a second position;

15       bonding the first end of each wire strand to the corresponding first bonding site at the second position; and

      bonding the second end of the first wire strand to the corresponding second bonding site at the second position to  
20       electrically interconnect the first component and the second component.

A

16. The method of Claim 15, wherein the steps of bonding the first end of each wire strand to the  
25       corresponding first bonding site and bonding the second end of each wire strand to the corresponding second bonding site occur at approximately the same time.

17. The method of Claim 15, further comprising the  
30       step of advancing a third component and a fourth component into the first position simultaneously with the step of advancing the first component and the second component to the second position.

18. The method of Claim 15, further comprising the step of advancing a second wirefilm into the first position.

5 19. The method of Claim 15, further comprising the step of separating the first wirefilm from a film tape carrier supporting the first wirefilm at the first position.

10 20. The method of Claim 15, further comprising the step of displacing, at the first position, a film tape carrier that supports the first wirefilm to reduce distortion of the first wirefilm before the first wirefilm contacts the first component and the second component.

15

Add B3